



# PROMAT

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# Warehousing: Key Technology Trends

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Sponsored by:



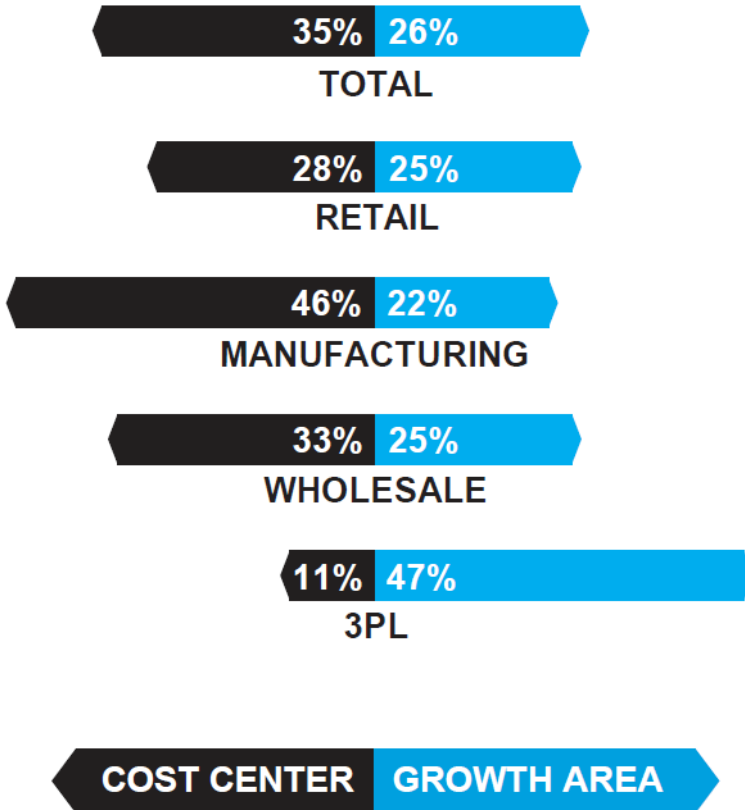
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# Changing Perceptions of Warehouses & DCs



## Cost center or Growth area?



**Retail:** Omni-channel driving changing fulfillment infrastructure

**Manufacturing:** Driving towards higher levels of inventory tracking. Drive for operational efficiency and lean practices

**Wholesale & 3PL:** Striving to find new ways to operate more effectively leveraging new technologies and mechanization

**Warehouse:** Increasingly driving business growth and profitability

# The Right Technology Solutions Are Critical



## 25% have IoT

25% of firms in 2014 already had an Internet of Things solution in place compared with 15% of surveyed firms in 2012.

## >80% are ready

Over 80% of industries, companies and teams are ready to make the changes required for IoT implementation.

Forrester , "Internet-Of-Things Solution Deployment Gains Momentum Among Firms Globally," 2015



# THE TOP TECHNOLOGY TRENDS FOR WAREHOUSING.

## IS YOUR BUSINESS PREPARED?



# IoT: Internet of Things

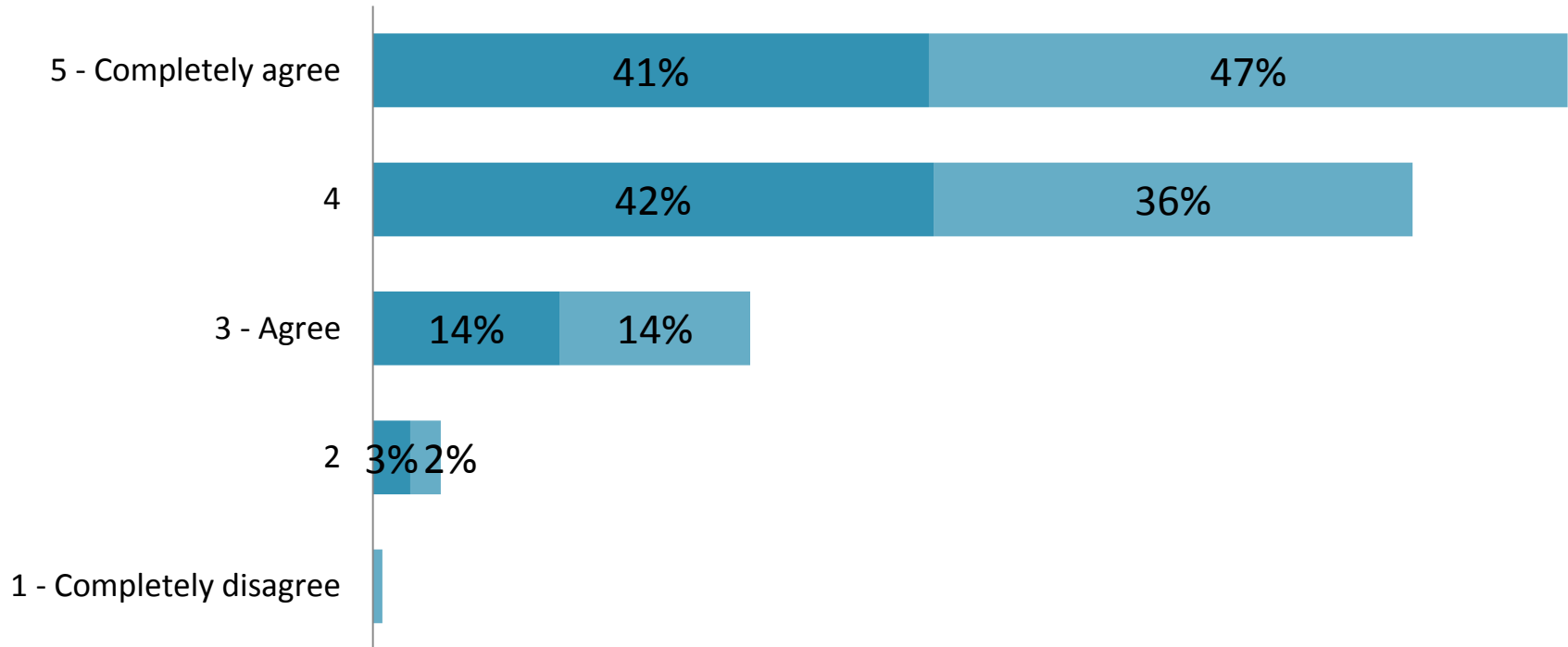
What does it mean to your business?



Smart interconnected devices that businesses use to get **more visibility** into the identification, location, and condition of products, assets, transactions, or people to drive more effective and timely business decisions or to improve customer interactions.

# IoT: Internet of Things

## What does it mean to your business?



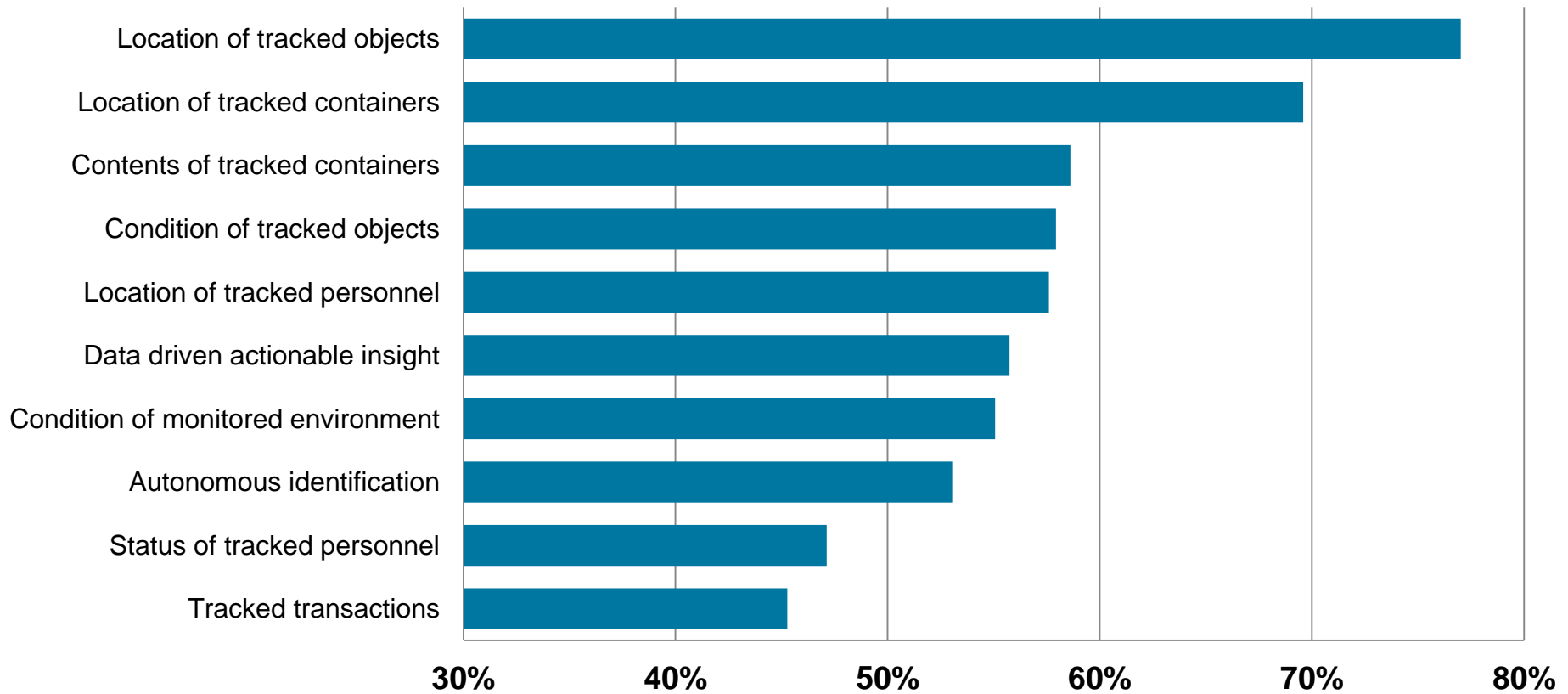
- The realization of IoT solutions will be the most important technological initiative the business world has seen in a decade.
- The adoption of IoT solutions will be the most strategic technology initiative my organization will have taken on in a decade.

# IoT: Internet of Things

## What does it mean to your business?



### Functionality IoT Expected to Deliver

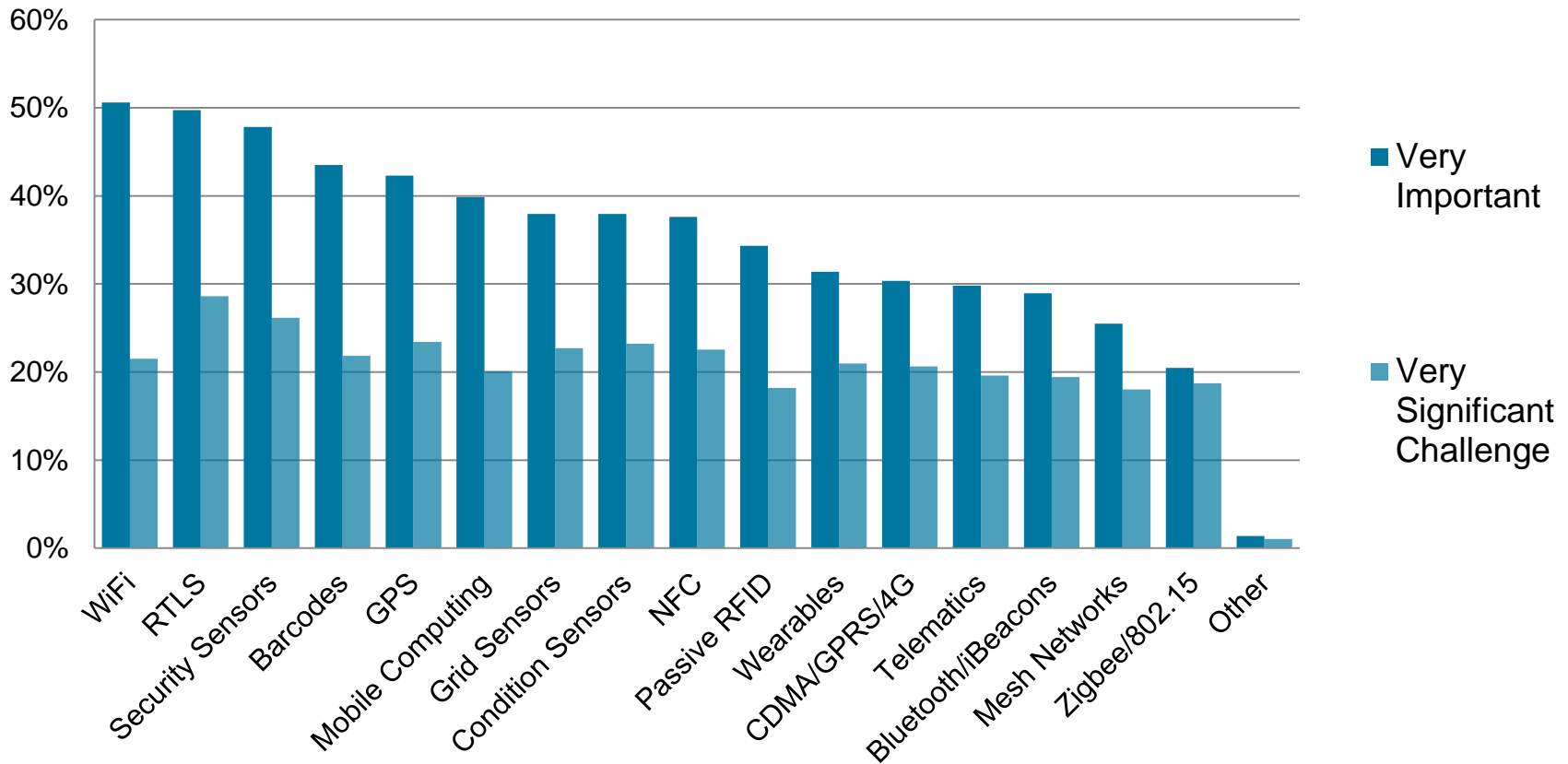


# IoT: Internet of Things

## What does it mean to your business?



### Most Important & Challenging IoT Enabling Technologies





# IoT: Internet of Things

## How does it apply to your business?



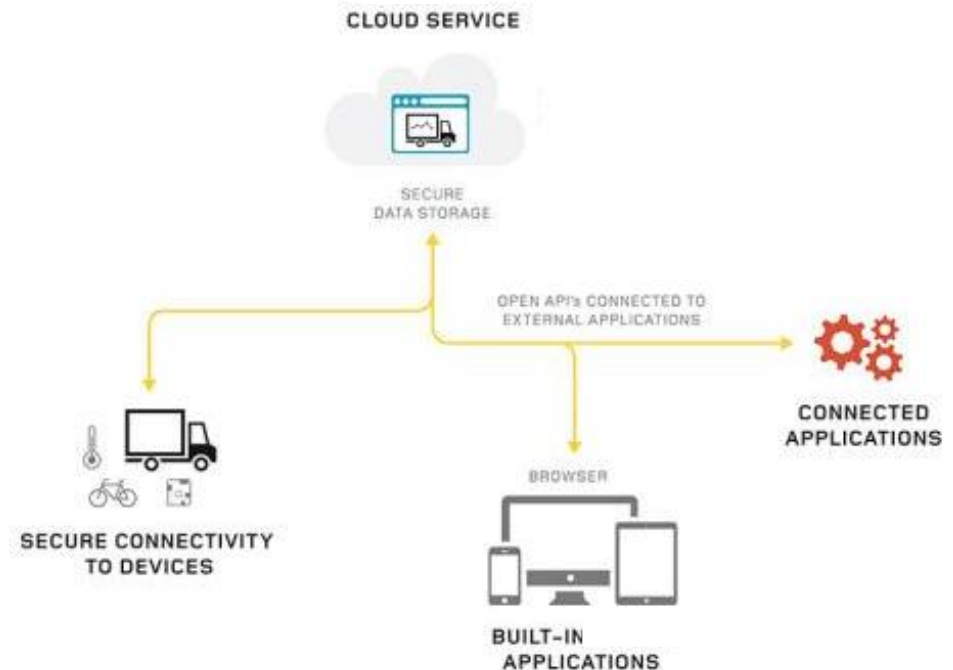
**By connecting your mobile assets throughout the extended enterprise, you can operate more effectively.**

### IoT benefits:

- Real-time access to the condition, location and status of assets & materials
- Supply chain optimization and responsiveness
- Customer service

### IoT challenges:

- Managing complexity
- Maintaining security
- Enabling applications



# RFID: RADIO-FREQUENCY IDENTIFICATION

## WHAT'S NEW?

# RFID: Passive Inventory Tagging Supply Chain Visibility



## RFID = 100% SCAN



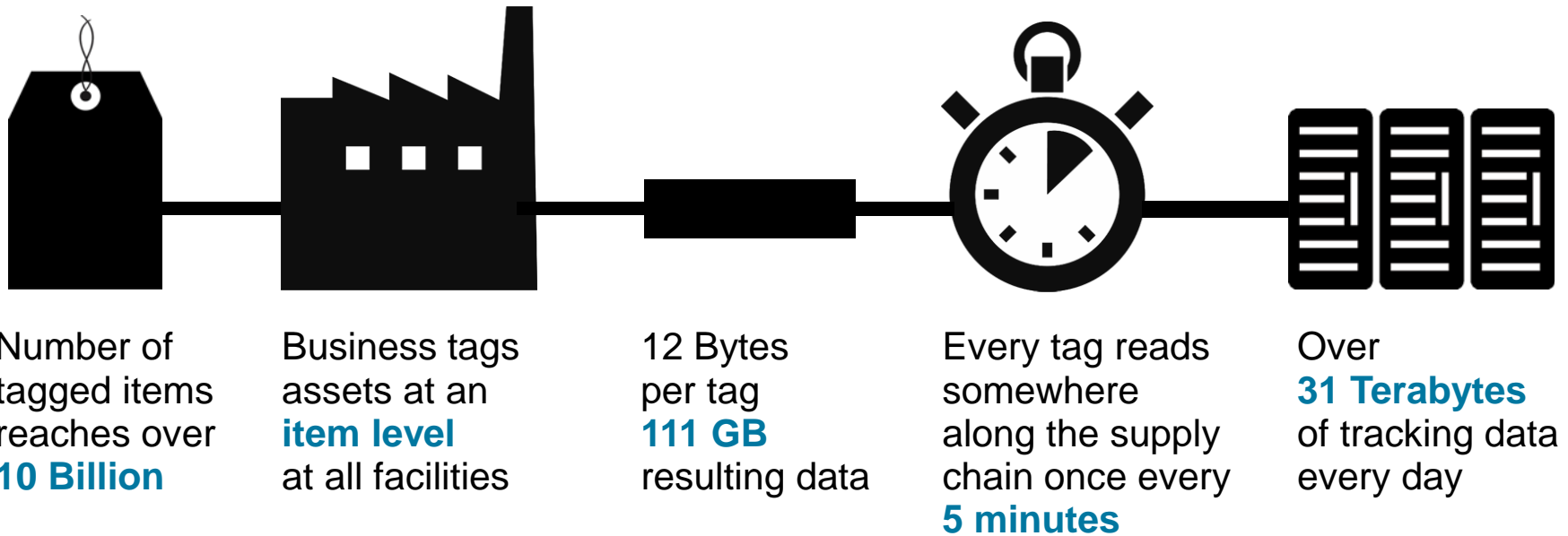
Service bureau /  
In plant printing systems

Pick/Pack  
Ship validation

Receipt  
Pack  
Ship verification

Receipt  
Inventory  
Markdown  
POS  
Exit doors  
Returns

# RFID: Where we are today



# RFID in Action

## Troy Design Manufacturing (TDM)



### Problem:

- TDM needed to automate their work in progress to track vehicle conversions.

### Solution:

- Fixed readers and antennas were integrated with Lowry's work-in-process software to provide detailed work instructions, a BOM, and a unique tracking ID for each vehicle.
- RFID automated the workflow process which saving valuable time spent by vehicles going through each station.
- RFID led to more accurate data collection, real-time visibility, and consistency.

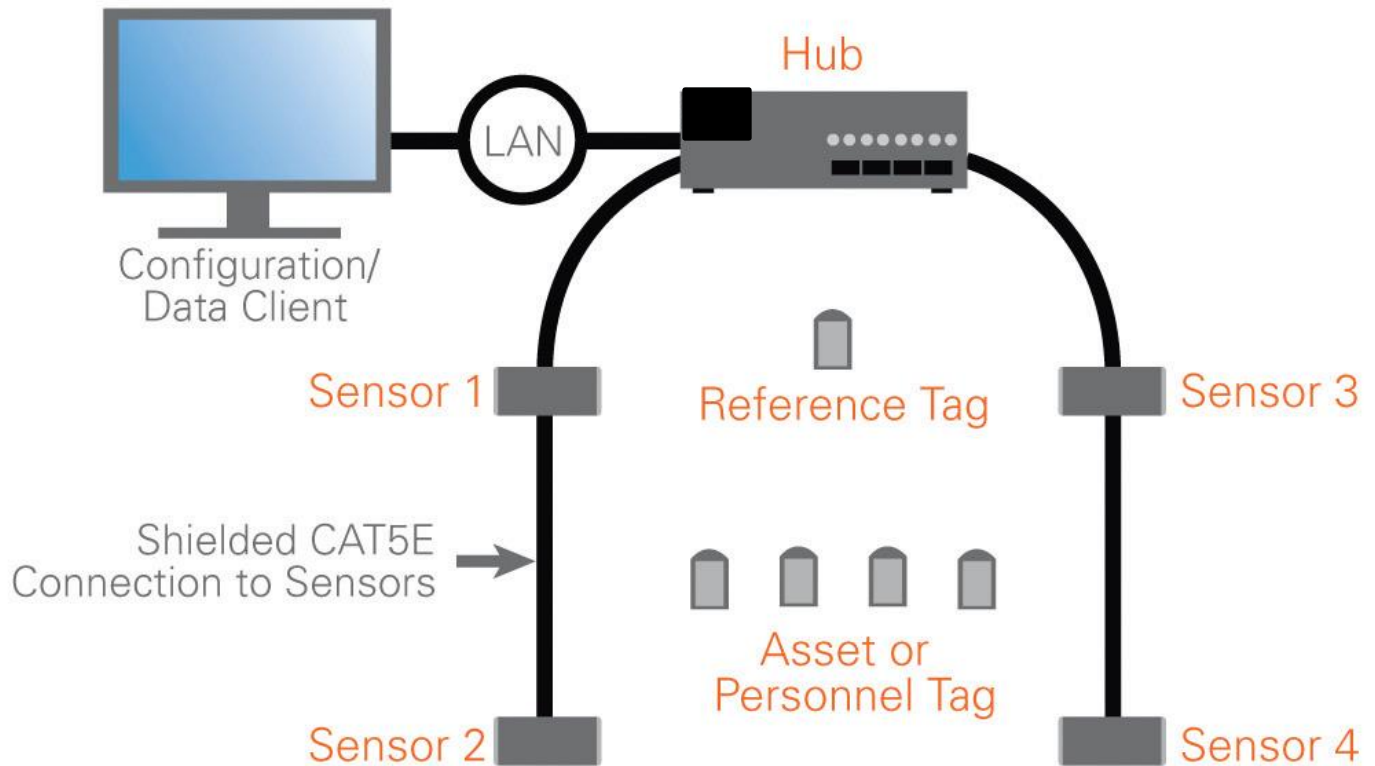


# RTLS: Real Time Location Solutions

## How does it work?



RTLS tracks people, materials and assets in real time by utilizing active Ultra-Wide Band (UWB) RFID technology.





# RTLS: Real Time Location Solutions

## What does it mean to your business?



**Active UWB systems provide accurate realtime 4 walls location visibility.**

### RTLS benefits:

- Task assignment based on location
  - Validation task is completed
- Reduced search time for staged materials & equipment
- Improved lift truck optimization
  - Realtime reporting & analysis
- Visibility/control of containers & yards

### RTLS challenges:

- Integrating capabilities into existing execution and planning systems
- New thinking to leverage RTLS to realize ROI



**HANDS FREE AND  
VOICE-DIRECTED SOLUTIONS.**

**CAN YOU AFFORD NOT TO  
AUTOMATE?**

# Voice And Multimodal Picking

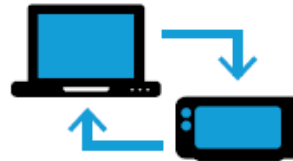
Speech extends voice beyond picking



A flexible, multimodal approach to voice solutions gives you:



**A WIDE RANGE OF HARDWARE  
DEVICES TO CHOOSE FROM**



**AN ADVANCED SOFTWARE  
ECOSYSTEM**



**MULTIPLE DEPLOYMENT  
ARCHITECTURES**



**EASE OF INTEGRATING VOICE  
GUIDANCE AND RESPONSE**



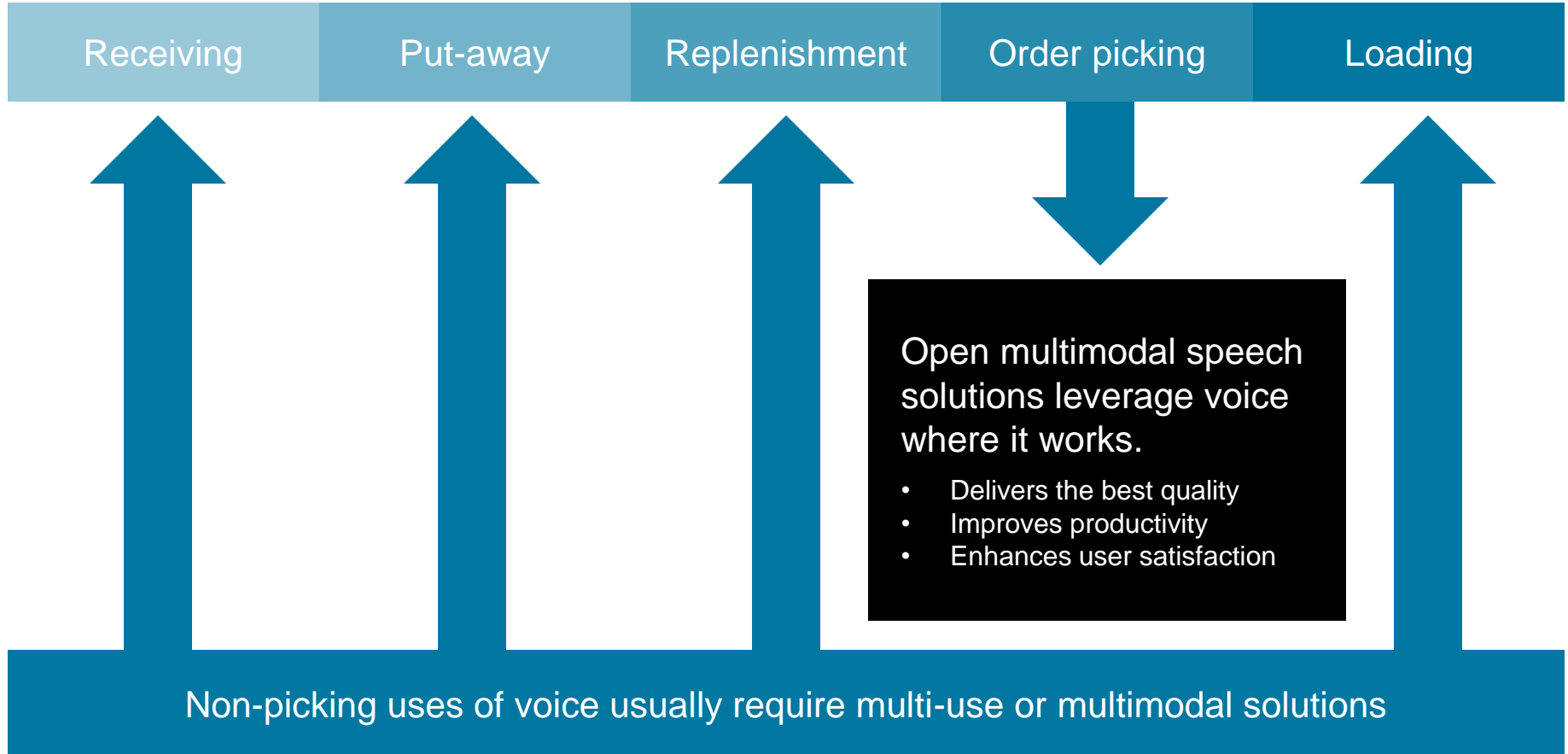
**ERGONOMIC DATA CAPTURE  
AND SCREEN REINFORCEMENT**



**A SINGLE SOLUTION  
BEYOND PICKING**

# Voice And Multimodal Picking

Speech extends voice beyond picking



# Wearable Computing

## What does this mean to your business?



**Enhance existing picking schemes and use across different levels of picking – piece pick, case pick and pallet pick.**

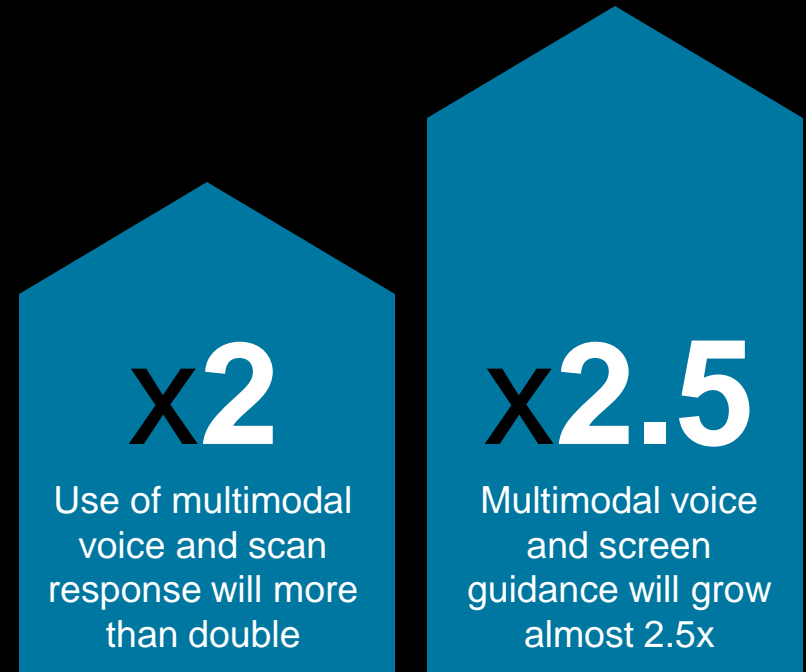
### **Multimodal voice benefits:**

- Instant verification that the right item is picked
- Extended attribute capture (lot, date, catch weight)
- Presentation of task data (images, next task, productivity)

### **Multimodal challenges:**

- Voice solution that enables multimodal workflow design
- Image database integration

## **Multimodal picking growth over the next five years**



# Wearable Computing

## What does this mean to your business?



**Same hands free capabilities as voice PLUS a screen for user interaction.**

### Wearable benefits:

- Ergonomic wearable scanning solutions improve operations
- Hands free scanning eliminates errors improving accuracy
- Voice, telnet, browser client
- Mobile printing reduces walk time, errors and provides realtime process visibility and control

### Wearable challenges:

- Adapting applications to hands free UI
- Adapting applications to print-on-demand





## Internet of Things:

- What is your strategy?
- What platform will you leverage?

## RFID and RTLS:

- How will passive and active RFID technologies help your warehouse and shop floor get to the next level?
- What is the right technology for you?

## Hands free mobile technology?

- Are you still using hand held technology where hands free is needed?
- Have you evaluated new voice-directed technologies that are low cost and more flexible than past solutions?

# QUESTIONS?

## FOR MORE INFORMATION PROMAT 2015 BOOTH #1552

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